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| 09/926,497 | 11/13/2001 | Jean-Jacques Favot | 215976US2XPCT | 6656 |
| 22850 | 7590 | 12/05/2003 | | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER MOYER, MICHAEL J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2675 | |
| | | | DATE MAILED: 12/05/2003 | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,497

Applicant(s)

FAVOT ET AL.

Examiner

Michael J. Moyer

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Pre-Amendment

1. The amendment filed on 13 November 2001 has been considered. Before claims 1-4 were pending and are canceled, and now new claims 5-14 are pending.

Specification

2. The spacing of the lines of the specification is such as to make reading and entry of amendments difficult. New application papers with lines double spaced on good quality paper are required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-8 and 10-12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner has some questions with regards to claim 7, the examiner understands the attribute the color to background element but does understand the attribute to a stroke element. The examiner has read the specification and still cannot distinguish to what the stroke element refers to, i.e., does it refer to a stroke as in where the user writes on the display and the when he/she is writing a stroke appears representing what is written or does a stroke element refer to an specific image, as in if you have an image of a tree, the stroke element is the tree or does the stroke element refer to characters or symbols that are written onto the screen by the CPU? The examiner requests a clarification of the stroke element. Furthermore, the examiner will interpret stroke element to mean an image that is produce with alphanumeric characters or symbols or solid objects, i.e., tree, box, car etc. With regards to claim 9, the examiner has read the specification and cannot distinguish what is being

claimed. For example, what is the definition of "formed by a union of independent lines" and "a link in between the lines for taking into account relations between the pixels or subpixels in a vertical direction is effected by reinjecting into a given line content of data emanating from an adjacent line" means or what is described. Is the applicant trying to say, there are a plurality of luminance and chrominance paths? And is this link a mixer or mux or adder? Furthermore, what is reinjecting in this claim?

Claims 8 and 10-12 are rejected as being dependent on a rejected base claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (hereinafter "Johnson"), US 5,339,092.

As pertaining to claim 5, Johnson discloses a system for displaying an image on a screen formed of a matrix of pixels each containing a given number of subpixels with primary colors, as figure 3 depicts comprising a graphics generator 20a (col. 3, lines 40-45; col. 5, lines 35-60) that is connected to an image memory 21a, that is organized to allow reading of n pixel or subpixels in parallel (col. 3, lines 46-50; col. 5, line 61-col. 6, line 14), which is also connected to a beamformer 23, the beamformer 23 is configured to determine a luminous level of each pixel or subpixel of the screen by a using a filter or sliding window, comprising a given number of weighting coefficients applied to a set of given pixels or subpixels around the pixel or subpixels to be processed (col. 3, lines 18-37; col. 6, lines 15-27, 56-64; col. 7, lines 13-37). The beamformer 23 comprises a luminance path which is performed in synchronous processing

in parallel of the luminous levels of the n pixels or subpixels by selecting a filter or sliding window for each pixel or subpixel and by combining at a given instant the weighting coefficients of the filters or sliding windows selected for the n pixels or subpixels with the coefficients already contained in the beamformer 23 and originating from successive correlations of the coefficients of all the filters or sliding windows previously selected (col. 3, lines 18-37; col. 12, line 44-col. 13, line 16).

As pertaining to claim 5, Johnson does not disclose a correlator but does disclose a beamformer which can be construed as correlator because it functions in the same manner by using a filter to help display a pixel or subpixel.

As pertaining to claim 6, Johnson discloses that the selecting of a filter is undertaken in part by the generator (col. 5, line 36-col. 6, line 64). Claim 6 is dependent on claim 1 and is rejected on the same basis and what is stated above.

5. **Claims 7 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson as applied to claim 5 above, and further in view of Tanaka, US 5,824,935.

As pertaining to claim 7, Johnson discloses what has previously been stated above.

As pertaining to claim 7, Johnson does not disclose the as a function of a color attribute that the synchronous and simultaneous processing of the color the pixels or subpixels can be accomplished by a stroke element or background element.

As pertaining to claim 7, Tanaka discloses a karaoke apparatus that includes a background generator 15 and graphics generator 13, which further can be construed as stroke generator. The graphics generator or stroke generator 13 generates a song words image to be displayed on a monitor screen based on a character code generated based on MIDI data recorded on a words track. The MIDI data includes a character data associated with the display location of words, display duration data associated with the duration of time in which words are

displayed, and color wipe control data for sequentially changing display colors of the words as the karaoke music progresses. The background video generator 15 selectively reproduces a predetermined background image or element corresponding to the genre of the karaoke music from a CD-ROM 14, and outputs the reproduced background image or element to an image mixer 16. The image mixer 16 superimposes the words or stroke image outputted from the graphic or stroke generator 13 onto the background image or element outputted from the background video generator 15, and outputs the resultant image to an image output circuit 17. The image output circuit 17 displays on the monitor screen a composite image of the background image or element and the words image or element mixed together by the image mixer 16 (col. 7, lines 9-27).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the graphics or stroke generator and background generator of Tanaka with the correlator of Johnson.

The suggestion/motivation for doing so would have been to provide a display that uses a graphics generator to produce a color code with attributes that can process colors of pixels or subpixels synchronously and simultaneously with the help of a beamformer of Johnson but when combined with Tanaka it further allows for the processing of the color of pixels or subpixels by using a background element and/or stroke element to enhance that pixel or subpixel to produce a higher resolution and have better contrast for a total image. Claim 7 is dependent on claim 5 and is rejected on the same basis and what is stated above.

As pertaining to claim 10, by combining the graphic or stroke generator, the background generator and mixer of Tanaka with the beamformer of Johnson this allows for the pixels or subpixels to be processed. Furthermore it would be obvious that the background generator would deliver primary color codes, red, green and blue intensity levels that would

allow for the pixels or subpixels to be processed. It is also obvious that the output of luminance path of the stroke or graphics generator and the background generator would be used to construct or decided what pixels or subpixels would actually be intended to be displayed in the matrix. Claim 10 is dependent on claims 5 and 7 and is rejected on the same basis and what is stated above.

6. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson and Tanaka as applied to claim 5 or 7 above, and further in view of Spaulding et al. (hereinafter "Spaulding"), US 6,091,849.

As pertaining to claim 8, Johnson and Tanaka disclose what has previously been stated above.

As pertaining to claim 8, they do not disclose the stroke path connected to the luminance path in such a way to manage intersections and superpositions of strokes of different colors as a function of predetermined color priority codes.

As pertaining to claim 8, Spaulding discloses a method for half-toning a multi-channel digital color or stroke image, in which the luminance component of the halftone pattern visibility is considered, the first step is to compute a spatial luminance distribution from the set of color halftone patterns. One method that can be used to determine the spatial luminance distribution is by measuring the luminance values that result when each of the individual colorants (e.g., cyan, magenta, and yellow) are used, as well as the luminance values that result for the possible combinations of the colorants (e.g., red=magenta+yellow, green=cyan+yellow, blue=cyan+magenta, and black=cyan+magenta+yellow). The halftone patterns for each of the color or stroke channels are then superimposed and the luminance value corresponding to the resulting combination of colorants are assigned to each of the pixel locations to determine the resulting spatial luminance distribution (col. 4, lines 34-49).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the method of half-toning of Spaulding with that of Johnson and Tanaka.

The suggestion/motivation for doing so would have been to provide for display that allows for better or higher resolution and better contrast when displaying an image. Claim 8 is dependent on claims 5 and 7 and is rejected on the same basis and what is stated above.

7. **Claims 13-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson as applied to claim 5 above, in view of Auger et al. (hereinafter "Auger"), US 6,130,678 and further in view of Perbet et al. (hereinafter "Perbet"), US 5,150,105.

As pertaining to claim 13, Johnson discloses what has previously been stated above.

As pertaining to claim 13, Johnson does not disclose processing of two pixels or subpixels, wherein the processing uses 16 microregions corresponding to a processing whose fineness is a quarter of a pixel.

As pertaining to claim 13, Auger discloses that a display, which uses a smoothing circuit that uses micro-zones or micro-regions for accomplishing the smoothing of an image (col. 2, line 54-col. 3, line 1-3). Furthermore, Auger discloses that the smoothing circuit has multiple tables of micro-zones (col. 6, lines 13-37). Since, Auger has multiple tables of micro-zones it would be obvious that the smoothing circuit would include 16 microregions or micro-zones.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the smoothing circuit that contain the tables of micro-zones with the beamformer of Johnson.

The suggestion/motivation for doing so would have been to provide a display that uses multiple micro-zones for either smoothing an image or for allowing an image to better resolution and higher contrast levels.

As pertaining to claim 13, Perbet discloses another display, which uses a video processor that uses a micro-region for smoothing and softening contours (col. 1, lines 17-23). Furthermore, Perbet discloses that a format can be for example in a ratio of $\frac{3}{4}$. Perbet also discloses that any size format and ratio can be used depending on the image (col. 3, lines 56-61). It would be obvious that if any ratio can be used that $\frac{1}{4}$ of the pixel would fall into that range.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the video processor that includes the micro-region, of Perbet with the beamformer and smoothing circuit of Johnson and Auger.

The suggestion/motivation for doing so would have been to provide for a display that is able to produce images that use micro-regions or micro-zones for either smoothing and/or softening an image and/or for better resolution and higher contrast. Claim 13 is dependent on claim 5 is rejected on the same basis and what is stated above.

As pertaining to claim 14, Perbet discloses the micro-region has to be a minimum of a 3x3 matrix, therefore it would be obvious that 4x4 matrix can be made from Perbet (col. 3, lines 3-20, 48-55). Furthermore, Perbet discloses that percentage of luminosity can be achieved by depending on how many colored pixels are included inside the micro-region. Therefore, it would be obvious that 8 possible luminous levels can be achieved. Claim 14 is dependent on claims 5 and 13 and is rejected on the same basis and what is stated above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Favot et al., US 5,287,451. Favot teaches a method of presenting images on a hardware screen and a system for implementing the method.

b) Steiner et al., US 5,668,940. Steiner teaches a method and apparatus for anti-aliasing polygon edges in a computer imaging system.

c) Shirman et al., US 6,151,029. Shirman teaches a texture mapping with improved technique for selecting an appropriate level in filtered representations of the texture.

d) Graham et al., US 6,232,953 B1. Graham teaches a method and apparatus for removing artifacts from scanned halftone images.

e) Hayashi et al., US 6,433,345 B1. Hayashi teaches a fluorescence observing apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Michael J. Moyer** whose telephone number is **(703) 305-2099**. The examiner can normally be reached Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Steven Saras**, can be reached at **(703) 305-9720**.

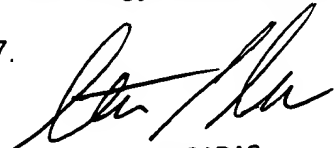
Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
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or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


STEVEN SARAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Michael J. Moyer
Examiner
Art Unit 2675

MJM
November 20, 2003